# NPL Site Narrative for Smithtown Ground Water Contamination

## SMITHTOWN GROUND WATER CONTAMINATION
## Smithtown, New York

**Conditions at Proposal (September 29, 1998)**: The Smithtown Ground Water Contamination site is a contaminated ground water plume located in the Town of Smithtown, Suffolk County, New York. The area is encompassed by the Villages of Nissequogue and Head of the Harbor, and by the Hamlet of St. James. Homes in this area use private wells for potable water supply and septic systems for sanitary waste water disposal. At this time, the area affected by the contaminated plume is not serviced by a public water supply. The site is situated south of the Stony Brook Harbor and east of the Nissequogue River.

On October 9, 1997, the U.S. Environmental Protection Agency (EPA) received a written request from the New York State Department of Environmental Conservation (NYSDEC) requesting assistance in funding alternative water supplies for residences affected by contaminated ground water. Attached to this request was a private well sampling survey prepared by the Suffolk County Department of Health Services (SCDHS), which presented drinking water survey results for 34 private wells in the area. Analytical data from this survey indicated that several wells were contaminated with volatile organic compounds (VOCs), primarily tetrachloroethylene (PCE).

Throughout 1997 and 1998, the SCDHS collected samples from approximately 150 homes throughout the Villages of Head of the Harbor and Nissequogue, and the Hamlet of St. James. Analytical results from these data indicated that 23 residences were contaminated with PCE at concentrations exceeding the State and Federal maximum contaminant level (MCL) of 5 parts per billion (ppb). Four of these residences had PCE concentrations exceeding EPA's Removal Action Level (RAL) of 70 ppb.

SCDHS has investigated several current and former commercial/industrial facilities (located east of the site) in the area in order to identify sources of the contaminated ground water plume. These investigations included the installation and subsequent sampling of test wells downgradient of these facilities. Based on a review of analytical data from this sampling, the source or sources of the ground water contamination have not been determined.

An observed release of PCE to ground water is documented by the chemical analyses of ground water samples collected from private drinking water wells. In April 1998, EPA sampled 295 homes in the area in an effort to determine the extent of PCE contamination. Samples were analyzed according to EPA Method 524.2 for specific VOCs. Analytical results from this sampling event indicated the presence of PCE in 33 residential wells at concentrations above the MCL. The RAL for PCE was exceeded in six of these wells. Levels of PCE below the MCL (i.e., 1-5 ppb) were detected throughout the study. In addition to PCE, low levels of other VOCs, including breakdown products of PCE, were detected in private wells sampled by EPA and SCDHS. All of these wells are screened in the upper glacial or Magothy aquifers, which are interconnected and evaluated as the aquifer of concern.

As a result of the analytical results generated during the April 1998 sampling event, EPA began the delivery of bottled water to four of the six residences contaminated above the RAL with PCE. The other

two residences had already had installed granular activated carbon (GAC) treatment systems. In June 1998, EPA expanded the delivery of bottled water to homes where the MCL for PCE or its breakdown products was exceeded and whose residents were interested in receiving bottled water. On July 23, 1998, an EPA Action Memorandum was signed, authorizing Removal Action activities to be conducted at the site: For homes where the MCL is exceeded and where public water is available, EPA will provide the service connection to the public water supply. For homes where the MCL is exceeded and public water is not available, EPA will provide a GAC treatment system. Bottled water delivery will continue until these actions are completed.

**Status (January 1999)**: As part of a response action, EPA has installed two GAC systems and installed ten service connections where MCLs are exceeded.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.